

关。GDAŃSK UNIVERSITY 创 OF TECHNOLOGY

Subject card

Subject name and code	Knowledge Bases and Decision Support Systems, PG_00038301								
Field of study	Automation, Robotics and Control Systems								
Date of commencement of studies	October 2022		Academic year of realisation of subject			2022/2023			
Education level	second-cycle studies		Subject group						
Mode of study	Part-time studies		Mode of delivery			at the university			
Year of study	1		Language of instruction			Polish			
Semester of study	2		ECTS credits			2.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Control Engineering -> Faculty of Electrical and Control Engineering								
Name and surname	Subject supervisor		dr inż. Robert Smyk						
of lecturer (lecturers)	Teachers		dr inż. Robert Smyk						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	oratory Project		Seminar	SUM	
	Number of study hours	10.0	0.0	10.0 0.0			0.0	20	
	E-learning hours included: 0.0								
Learning activity and number of study hours	Learning activity	Participation in classes includ plan	n didactic ed in study	Participation in consultation hours		Self-study		SUM	
	Number of study hours	20		6.0		24.0		50	
Subject objectives	Acquainting with techniques of extracting information from knowledge bases. Elementary principles of building information systems with a knowledge base.								
Learning outcomes	Course outcome		Subject outcome			Method of verification			
	K7_W05		The student implements the selected ML method.		[SW1] Assessment of factual knowledge				
	K7_U07		The student implements the selected application functionality.		[SU1] Assessment of task fulfilment				
	K7_W02		The student performs a design task in a specific scope.		[SW3] Assessment of knowledge contained in written work and projects				
	K7_U10		The student knows selected classification algorithms.			[SU2] Assessment of ability to analyse information			
	К7_К06		The student knows the basic principle of developing a dataset			[SK5] Assessment of ability to solve problems that arise in practice			
Subject contents	 Introduction to SWD: basic general issues, discussion where to get the data, where to store it, how to process it? Data Acquisition: webscraping Parsing-processing of JSON / XML data Non-relational data container, such as Mongo DB Building a model: data classification, property extraction Building the model: algorytmy ML, fuzzy logic Processing of linguistic data, NLP Conclusion: building the application interface in web technology 								
Prerequisites and co-requisites	He knows the basic calculation methods in the field of numerical methods. Has basic programming skills in a selected high-level language.								
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade				
	carrying out tasks during classes		50.0%		50.0%				
	project		50.0%			50.0%			

Recommended reading	Basic literature	 Richert, Willi. Building machine learning systems with Python. Packt Publishing Ltd, 2013. Dasgupta, Nataraj. Practical big data analytics: Hands-on techniques to implement enterprise analytics and machine learning using Hadoop, Spark, NoSQL and R. Packt Publishing Ltd, 2018. Ploetz, Aaron, et al. Seven NoSQL Databases in a Week: Get up and running with the fundamentals and functionalities of seven of the most popular NoSQL databases. Packt Publishing, 2018. 			
	Supplementary literature	 Towards data science, <u>https://towardsdatascience.com/</u>, 2022 Kaggle, <u>https://www.kaggle.com/</u>, 2022 			
	eResources addresses	Adresy na platformie eNauczanie:			
Example issues/ example questions/ tasks being completed					
	Suggest a data storage container for loose structure documents.				
	Suggest an algorithm for classifying unstructured data.				
Work placement	Not applicable				